As many of you are aware, the NPDN Executive Committee has been engaged in an in-depth strategic planning process for the past 18 months. Encouraged by USDA-NIFA leadership, this strategic planning process was guided by the challenges set forth in the most recent USDA Cooperative Agreement. The Cooperative Agreement establishes the framework within which the Network operates and through which the funding is allocated.

Specifically, the most recent Cooperative Agreement advises the NPDN leadership to consider the following:

“Current economic realities require that the network:

• identify new ways to economize
• reduce operating costs without losing the most critical biosecurity functions
• avoid redundancy and unnecessarily duplicative infrastructure
• economize within the current structure.”

Further:

“Regional hub labs are encouraged to ... develop a system of tiered labs ... based on” several criteria including, “sample load/contribution to the network, and unique value added to the region, such as special capabilities of the lab and expertise related to regional priorities.”

The NPDN leadership has embraced this mandate from NIFA as an opportunity to strategically expand our capabilities, increase capacity, and ultimately to enhance Network value. Consistent with our more focused NPDN mission and committed to a philosophy of constant improvement, we have evaluated where we are at and where we need to take NPDN as...

“...a premier diagnostic system with the ability to quickly detect and accurately identify plant pests and pathogens and to communicate timely and accurate information.”

We will convene a webinar on Wednesday, 7 February 2018, at 11:00 AM ET to explain the approach taken, describe the status of the draft strategic plan, and to present a vision for the future of NPDN. There is much yet to do, and we look forward to engaging the entire network in the completion of the plan and in realizing the vision of “...a premier diagnostic system.”

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5th NPDN National Meeting—SAVE the Dates!

Planning for the next NPDN National Meeting will begin early in the new year. The exact dates and location are to be determined. Tentatively, that meeting will convene in the March to April timeframe of 2019. PLEASE save the dates. Many of you will contribute to the program, the associated program (e.g., workshops, tours), the logistics, and local arrangements; in advance — THANK YOU!

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Issue highlights

• Tip: table grapes as baits for Botrytis
• Sentinel Plant Network hosts southwestern workshop
• Regional news: Clemson University Plant Problem Clinic and Tomato Chlorotic Dwarf Viroid in Hawai‘i
Table grapes as baits for Botrytis

Mike Munster and Charles Hodges, North Carolina State University Plant Disease and Insect Clinic

In January 2018 the North Carolina State University Plant Disease and Insect Clinic received a blackberry sample with numerous subepidermal sclerotia on the canes (Fig. 1). These were presumed to be Botrytis, but several days of moist-chamber incubation produced only limited sporulation, so baiting was attempted. Seedless red table grapes from a local supermarket were washed, and a small incision made in each. Sclerotia were excised from the canes and inserted into the grapes, which were then incubated in a moist chamber at room temperature. Within four days, five of seven grapes showed sporulation of *Botrytis cinerea* (Figs. 2, 3). Cladosporium grew from some of the inoculated sites, but the *Botrytis* conidiophores towered above it.

**Fig. 1.** Sclerotia just under the epidermis of the blackberry cane.

**Fig. 2.** Grape baits, 4 days after inoculation.

**Fig. 3.** Botrytis sporulating from grape bait.

Find this and other useful diagnostic tips on the NPDN website at www.npdn.org/diagnostic_tips.

If you would like to share a diagnostic tip or technique with your colleagues the newsletter is a great place to do so! Send your tip to Rachel McCarthy at rachel.mccarthy@cornell.edu.
On January 8–9, the Sentinel Plant Network (SPN) conducted its first professional development workshop in Tucson, Arizona. The southwest workshop served 33 public garden professionals representing 18 member gardens from Arizona, southern California, Colorado, New Mexico, Texas and Wyoming, as well as representatives from the American Public Gardens Association, NPDN and USDA-APHIS. The workshop was held at the Loews Ventana Canyon Resort and led by SPN coordinators Rachel McCarthy and Tyler Hale (American Public Gardens Association). The resort was selected for the workshop venue to accommodate a concurrent Association program—the small gardens symposium. This worked in SPN’s favor as the resort’s landscape provided a plethora of issues for discussion throughout the program.

After a brief introduction about SPN and the program’s objectives, we moved swiftly into our diagnostic curriculum. Jason French, New Mexico State University Plant Diagnostic Clinic, presented diagnostics 101—an overview of the diagnostics process including biotic (pathogens and arthropods) and abiotic plant problems. This key lecture served as the foundation for the workshop and laid the groundwork for the Sharpening Observation Skills scouting walk and the diagnostics 102 hands on laboratory. The Southwest diagnostic team consisted of Jason French and Gene Hall, Department of Entomology, University of Arizona, who taught the diagnostics 102 labs; and Jiahuai “Alex” Hu and Ursula Schuch, School of Plant Sciences, University of Arizona, who ably led the Sharpening scouting walks.

Rachel provided an update on the region’s significant pests and pathogens, and presented SPN’s emerging threats. The emerging threats series represents training and scouting resources for pests and pathogens not known to be in the US that are of interest to USDA. The most recent addition to the emerging threats lineup—Thaumetopoea
processionea, the oak processionary moth—was debuted. SPN members are encouraged to monitor for these threats and contact their state diagnostic lab any time they observe something that appears suspect. The list of SPN’s emerging threats can be found on the SPN public website at www.sentinelplantnetwork.org/issue/threats-us.

On Monday evening, participants from the workshop and the small gardens symposium attended a lovely tour and reception at Native Seed Search in Tucson. The event was held at their Seed Bank and featured food of the region and their seed bank collection including heirloom chilis, beans and corn.

The Sentinel Plant Network will host two more professional development workshop for public garden professionals in 2018. If you are interested in helping with one of these regional training events or learning more about the Sentinel Plant Network contact Rachel McCarthy at rachel.mccarthy@cornell.edu.

SPN participants all received pocket field guides featuring regionally significant pests/pathogens and SPN’s emerging threats. The oak processionary moth scouting card (pictured above) is the latest addition to SPN’s emerging threats lineup.

The Sentinel Plant Network is a collaborative endeavor with the National Plant Diagnostic Network and the American Public Gardens Association that leverages public garden professionals, volunteers and visitors in the early detection of high-consequence plant pests and pathogens. (More information about the network can be found on NPDN’s website at www.npdn.org/spn or on our public facing website at www.sentinelplantnetwork.org). This project is funded through the Farm Bill and since 2011 the network has grown to include over 240 member gardens.

New! Diagnostic resources available on the website

Lina Rodriguez Salamanca and Joan Allen, NPDN Training and Education committee

The NPDN public site now has diagnostic resources available at www.npdn.org/diagnostic_resources. If you have diagnostic resources that you would like to share, please send them via email to lina@iastate.edu. The Training and Education committee will review all resources and make them available on the website upon approval.
In February, 2018, the Plant Problem Clinic will change its name to the Plant and Pest Diagnostic Clinic. This change is being made to more clearly represent what we do and to portray a more professional image nationally. In addition, the Clinic will increase its fees to $20 for in-state samples and $30 for out-of-state samples. This move was influenced by several factors, including diminished state support, increased costs of materials and labor, and closer alignment of fees with those of surrounding states. As with the previous fee structure, all available diagnostic tests that are deemed necessary will be included in the new fee. This doesn't include nematode assays, which are run by a separate lab. Their fees were raised to $20/$30 a few years ago, so the change will also align our fee structure with theirs.

Tomato (Solanum lycopersicum) is an important vegetable crop in Hawai‘i, grown in field and greenhouse operations. It is also a common host of many pests and pathogens in Hawai‘i, including mites, insects, fungi, nematodes, bacteria and viruses. Another group of pathogens, known as viroids, are also a major hindrance to tomato production around the world. Until recently, there have been no reports of viroid infection in tomato or any other crop in Hawai‘i. In 2017, however, a disease caused by Tomato chlorotic dwarf viroid (TCDVd) was identified in greenhouse-grown tomato for the first time in the state.

Symptoms in tomato
Symptoms caused by TCDVd can vary in severity depending on the tomato variety and environmental conditions. Typical symptoms include stunting of the plant by reduction in internode length, as well as foliar irregularities such as chlorosis, necrosis, purpling of leaflets, and epinasty (downward curling of the leaflet margin). The symptoms caused by TCDVd can be the same as those caused by other viroids (co)-infecting tomato such as Columnea latent viroid, Potato spindle tuber viroid, and Tomato apical stunt viroid.

Spread of TCDVd
TCDVd is primarily spread plant-to-plant by grafting, contaminated tools, and leaf or stem contact of neighboring plants. Even touching a healthy plant after an infected plant can result in transmission. There are no insect vectors known to spread TCDVd, although it is possible that chewing insects and bumblebees can spread viroids from plant to plant in a manner similar to mechanical transmission. TCDVd can enter the seed of infected plants, resulting in infected seedlings after germination. The local, regional, or global distribution of infected seed represents the most likely pathway for long-distance spread of the pathogen.

This is an excerpt from the fall 2017 edition of the Western Plant Diagnostic Network First Detector News. To access the full article with information on TCDVd hosts, the current geographic range and recommendations for management visit the WPDN’s newsletter page at www.npdn.org/wpdn/newsletters.
Upcoming events

Meetings

March 19–22, 2018
Ninth International Integrated Pest Management (IPM) Symposium
Baltimore, Maryland

July 29–August 3, 2018
International Congress of Plant Pathology (ICPP) 2018
Boston, Massachusetts

August 12–16, 2018
National Plant Board 2018 Annual Meeting
Cleveland, Ohio

contribute

Share tips and news with your colleagues
Recently write an article for a trade journal? Do you have a tip, announcement, regional news or network update you would like to include in the NPDN News?
Email Rachel McCarthy at rachel.mccarthy@cornell.edu

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